

Abstract

5 An unmanned system for investigating underwater regions
utilizes an unmanned mothership and a plurality of unmanned
underwater vehicles (UUVs). The mothership transports the
10 UUVs to and from the vicinity of an underwater region,
releases the UUVs into the water, and facilitates recovery of
the UUVs from the water. Each UUV can traverse an underwater
region, generate sonar and image data associated with the
underwater region, and transmit the sonar and image data
15 through the water for receipt and re-transmission by the
mothership. A docking system mounted partially onboard the
mothership and partially onboard each UUV couples each UUV to
the mothership and selectively releases each UUV into the
underwater region. A guidance system mounted partially
20 onboard the mothership and partially onboard each UUV guides
each UUV back to the docking system from positions in the
water. The mothership and UUVs can also be equipped with a
non-contact electrical energy transfer system so that each
UUV can return to the mothership and re-charge onboard
batteries while underwater.